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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,636	12/05/2001	Gregory J. Wilson	291958172US	3747
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PERKINS COIE LLP			MUTSCHLER, BRIAN L	
PATENT-SEA			ART UNIT	
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DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

ML

Office Action Summary	Application No.	Applicant(s)	
	10/008,636	WILSON ET AL.	
	Examiner	Art Unit	
	Brian L. Mutschler	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 34-38, 53-57 and 69-73 is/are allowed.
- 6) ☒ Claim(s) 1-33, 39-52, 58-68 and 74 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. Figures 1B and 1C should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Even though Applicant states that the embodiments are only included for background information, the embodiments were disclosed in a prior application, and the instant claims are an improvement on those prior embodiments. Therefore, since the figures should be labeled as prior art. Since the present application is a continuation-in-part of the application from which those embodiments are disclosed, the prior art label does not necessarily indicate that the drawings can be used as prior art to reject the instant claims. The label merely identifies the embodiments as embodiments that have been disclosed prior to the filing of the present application. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to because in Figure 7, reference character "**430**" should be changed to "**430a**". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Priority

3. The claim for priority appearing in paragraph [0001] is objected to because of the following informalities:

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- a. The order of the applications from which the present application claims priority is incorrect. The paragraph states, "U.S. Application No. 09/113,723, filed July 10, 1998, which claims priority from the following: (a) U.S. Application No. 60/111,232, filed December 7, 1998, (b) U.S. Application No. 60/119,668, filed February 11, 1999, and (c) PCT Patent Application No. PCT/US99/15847, filed July 12, 1999." As can be seen from the dates, the three applications to which U.S. Application No. 09/113,723 claims priority were filed after the filing date of 09/113,723. An application cannot claim priority to a subsequently filed application. Please correct the claim for priority to correctly identify the sequence of the applications.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-15, 17-22, 24-33, 40-44, 46-51, and 59-68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the limitation "the covers of the contacts" in line 4. There is insufficient antecedent basis for a plurality of covers in the claim. Claim 1 recites the limitation "a plurality of contacts including a conductor and a cover" in line 5. Since

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claim 1 appears to introduce a single cover included in the plurality of contacts, the plural contacts recited in claim 2 is indefinite. The same also applies to “the conductors” recited in line 6 of claim 2. Similar limitations also appear in claims 3-15, 17-22, 24-33 (where “dielectric elements” appear in place of the term “cover”), 40-44, 46-51, and 59-68.

Claim 2 recites the limitation “the bore of a cover” in line 7. This limitation is indefinite because it is not clear of the bore of a cover is the same as the bore of the sheaths. Similar limitations also appear in claims 3-6, 17, 21, 22, 24, 25, 40-44, 46, 50, 51, and 59-62.

Claim 7 recites the limitation “a plurality of boots cover corresponding turrets” in line 4. This limitation is indefinite because the relationship between the contact assembly and the boots and turrets is unclear. What is the function and/or structural relationship of the boots and turrets with respect to the contact assembly?

Claim 24 recites the limitation “the bore of a cover” in line 7. This limitation is indefinite because the relationship between the dielectric elements and the cover is unclear. It appears that the term “cover” should be changed to “dielectric element”.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 6, 10, 11, 16, 17, 18, 19, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Stevens (U.S. Pat. No. 6,251,236).

Regarding claims 1, 16, and 23, Stevens teaches a prior art contact assembly comprising a support member and a plurality of contacts **56** that project inwardly into the opening defined by the inner wall of the support member (fig. 2). The support member comprises a conductive material covered by a dielectric (col. 2, lines 47-60). The contacts **56** comprise conductive rods made of platinum, which is an inert material in electroplating solutions, wherein the rods are covered by a dielectric (col. 2, lines 47-60). The contact site must not be covered with the dielectric or else plating would not occur.

Regarding claims 6, 10, 17, and 18, the dielectric cover is a sheath that surrounds the conductor inside.

Regarding claims 11 and 19, the conductor is made of platinum (col. 2, lines 21-46).

Since Stevens teaches the limitations recited in the instant claims, the reference is deemed to be anticipatory.

8. Claim 74 is rejected under 35 U.S.C. 102(b) as being anticipated by Andricacos et al. (U.S. Pat. No. 5,522,975).

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Andricacos et al. teach an apparatus comprising contact assembly having a support ring **34** supporting a plurality of contacts **52**, wherein the contacts are coated with a dielectric material except for the tip of the distal end (fig. 9; col. 6, lines 24-40). The method of manufacturing the contact assembly is inherent in the disclosure of the apparatus. The apparatus cannot be produced without using the recited steps.

Since Andricacos et al. inherently teach all of the limitations recited in the instant claims, the reference is deemed to be anticipatory.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 6, 10-20, 23, 28-33, 39, 44-49, 52, 58, and 63-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andricacos et al. (U.S. Pat. No. 5,522,975) in view of Stevens (U.S. Pat. No. 6,251,236).

Regarding claims 1, 16, 23, 39, 45, 52 and 58, Andricacos et al. teach an electroplating apparatus comprising a contact assembly having a support member **34** and a plurality of contacts **52** (fig. 1). The support member **34** has an inner wall defining a ring-like opening to receive the workpiece **16**, and the support member **34** is formed of a conductive material with portions covered by a dielectric material **50** (col. 5, lines 45-67). The contacts **52** project inwardly into the opening of the support member **34** and

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are covered with a dielectric material at all portions except for the tip of the distal end (fig. 9; col. 6, lines 24-40).

Regarding claims 6, 10, 17, 18, 28, 29, 44, 46, 47, 63, and 64, the contacts **52** have a dielectric coating that covers all of the contact except for the tip of the distal end, and the contacts **52** are rod-shaped (fig. 9; col. 6, lines 24-40). Since the contacts are coated by a dielectric, the dielectric coating is a sheath having a bore through which the contact passes through.

Regarding claims 39, 45, 52, and 58, the apparatus further comprises a vessel **10** for holding a liquid electrolyte **20**, an anode **22** disposed relative to the vessel and a head assembly **18** moveable relative to the vessel (fig. 1; col. 3, lines 17-55).

Regarding claim 58, the apparatus further comprises a housing (cabinet) **12** and a transfer mechanism **66** (fig. 1; col. 7, lines 25-35).

The contact assembly of Andricacos et al. differs from the instant invention because Andricacos et al. do not teach the following:

- a. An inert exterior on the conductors, as recited in claims 1, 16, 23, 39, 45, 52, and 58.
- b. The conductors comprise rods composed of platinum or platinum/iridium alloy, as recited in claims 11, 19, 30, 48, and 65.
- c. The conductors comprise titanium rods having a platinum coating, as recited in claims 12, 20, 31, 49, and 66.
- d. The conductors comprise stainless steel rods, as recited in claims 13, 32, and 67.

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- e. The conductors comprise tungsten rods, as recited in claims 14, 33, and 68.
- f. The conductors comprise tungsten rods having a platinum coating, as recited in claim 15.

Regarding claims 1, 11-16, 19, 20, 23, 30-33, 39, 45, 48, 49, 52, 58, and 65-68, Stevens teaches an electroplating apparatus comprising a support member **170** and a plurality of conducting members **165** (fig. 3; col. 5, lines 9-50). For the conducting members **165**, Stevens teaches the use of materials including copper, platinum, tantalum, titanium, gold, silver, stainless steel, or other conducting materials (col. 5, line 51 to col. 6, line 7). In addition, Stevens teaches coating the conducting member **165** with a material resistant to oxidation such as platinum, silver, or gold (col. 5, line 51 to col. 6, line 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Andricacos et al. to use an inert conductor and the materials as taught by Stevens because such conductors are resistant to oxidation.

11. Claims 1, 6, 10-20, 23, 28-33, 39, 44-49, 52, 58, and 63-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uzoh (U.S. Pat. No. 6,228,231) in view of Stevens (U.S. Pat. No. 6,251,236).

Regarding claims 1, 16, 23, 39, 45, 52 and 58, Uzoh teaches an electroplating apparatus comprising a contact assembly having a support member **34** and a plurality

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of contacts **48** (figs 1 and 4). The support member **34** has an inner wall defining a ring-like opening to receive the workpiece **16**, and the support member **34** is formed of a non-conductive material and has a current distribution ring **38** (col. 4, lines 34-49). The contacts **48** project inwardly into the opening of the support member **34** and are covered with a dielectric material at all portions except for the tip of the distal end (fig. 4; col. 10, lines 30-45).

Regarding claims 6, 10, 17, 18, 28, 29, 44, 46, 47, 63, and 64, the contacts **48** have a dielectric coating that covers all of the contact except for the tip of the distal end, and the contacts **48** are rod-shaped (fig. 4; col. 10, lines 30-45). Since the contacts are coated by a dielectric, the dielectric coating is a sheath having a bore through which the contact passes through.

Regarding claims 39, 45, 52, and 58, the apparatus further comprises a vessel **10** for holding a liquid electrolyte **20**, an anode **22** disposed relative to the vessel and a head assembly **18** moveable relative to the vessel (fig. 1; col. 4, lines 26-32).

Regarding claim 58, the apparatus further comprises a housing (cabinet) **12** and a transfer mechanism **76** (fig. 1; col. 9, lines 33-53).

The contact assembly of Uzoh differs from the instant invention because Uzoh does not teach the following:

- a. An inert exterior on the conductors, as recited in claims 1, 16, 23, 39, 45, 52, and 58.
- b. The conductors comprise rods composed of platinum or platinum/iridium alloy, as recited in claims 11, 19, 30, 48, and 65.

- c. The conductors comprise titanium rods having a platinum coating, as recited in claims 12, 20, 31, 49, and 66.
- d. The conductors comprise stainless steel rods, as recited in claims 13, 32, and 67.
- e. The conductors comprise tungsten rods, as recited in claims 14, 33, and 68.
- f. The conductors comprise tungsten rods having a platinum coating, as recited in claim 15.

Regarding claims 1, 11-16, 19, 20, 23, 30-33, 39, 45, 48, 49, 52, 58, and 65-68, Stevens teaches an electroplating apparatus comprising a support member **170** and a plurality of conducting members **165** (fig. 3; col. 5, lines 9-50). For the conducting members **165**, Stevens teaches the use of materials including copper, platinum, tantalum, titanium, gold, silver, stainless steel, or other conducting materials (col. 5, line 51 to col. 6, line 7). In addition, Stevens teaches coating the conducting member **165** with a material resistant to oxidation such as platinum, silver, or gold (col. 5, line 51 to col. 6, line 7).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Uzoh to use an inert conductor and the materials as taught by Stevens because such conductors are resistant to oxidation.

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andricacos et al. (U.S. Pat. No. 5,522,975) in view of Stevens (U.S. Pat. No. 6,251,236), as applied above to claims 1, 6, 10-20, 23, 28-33, 39, 44-49, 52, 58, and 63-68, and further in view of Palmatier et al. (U.S. Pat. No. 6,080,289).

Andricacos et al. and Stevens describe an apparatus having the limitations recited in claims 1, 6, 10-20, 23, 28-33, 39, 44-49, 52, 58, and 63-68 of the instant invention, as explained above in section 9.

The apparatus described by Andricacos et al. and Stevens differs from the instant invention because they do not teach that the contacts are coupled to the support member by a positionable connector that allows the contacts to swivel with respect to the support member.

Palmatier et al. teach an electroplating apparatus having a support member **18** having a plurality of contacts **52**, wherein the contacts are pivotable to provide a wiping action to scrape away corrosion by-products and extend the life of the contacts (col. 4, lines 8-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the contacts in the apparatus described by Andricacos et al. and Stevens to use pivotable contacts as taught by Palmatier et al. because pivotable contacts allow the contacts to self-clean, thus removing corrosion byproducts and extending the life of the contacts.

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13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzoh (U.S. Pat. No. 6,228,231) in view of Stevens (U.S. Pat. No. 6,251,236), as applied above to claims 1, 6, 10-20, 23, 28-33, 39, 44-49, 52, 58, and 63-68, and further in view of Palmatier et al. (U.S. Pat. No. 6,080,289).

Uzoh and Stevens describe an apparatus having the limitations recited in claims 1, 6, 10-20, 23, 28-33, 39, 44-49, 52, 58, and 63-68 of the instant invention, as explained above in section 10.

The apparatus described by Uzoh and Stevens differs from the instant invention because they do not teach that the contacts are coupled to the support member by a positionable connector that allows the contacts to swivel with respect to the support member.

Palmatier et al. teach an electroplating apparatus having a support member **18** having a plurality of contacts **52**, wherein the contacts are pivotable to provide a wiping action to scrape away corrosion by-products and extend the life of the contacts (col. 4, lines 8-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the contacts in the apparatus described by Uzoh and Stevens to use pivotable contacts as taught by Palmatier et al. because pivotable contacts allow the contacts to self-clean, thus removing corrosion byproducts and extending the life of the contacts.

Double Patenting

14. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

15. Claim 1 is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-43 of copending Application No. 10/353,325. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

In copending Application No. 10/353,325, claim 1 recites, "a contact assembly ... comprising: a support member having an inner wall defining an opening configured to allow the workpiece to move through the support member along an access path; and a contact system coupled to the support member, the contact system having a plurality of contact members projecting inwardly into the opening relative to the support member and transversely with respect to the access path, wherein the contact members each have a contact site configured to electrically contact the workpiece and a dielectric coating around the contact site." Claim 12, which depends from claim 1, further recites, "the contact members comprise generally flat, conductive fingers and a platinum coating directly on the fingers; and the dielectric coating covers at least a portion of the platinum coating on the fingers such that a region of the platinum coating is exposed."

Since claim 12 of the copending application recites the same limitations as those recited in claim 1 of the instant application, the inventions recited in the claims are identical.

Allowable Subject Matter

16. Claims 2-5, 21, 22, 24-27, 40-43, 50, 51, and 59-62 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

17. The following is a statement of reasons for the indication of allowable subject matter:

Claims 2-5, 21, 22, 24-27, 34-38, 40-43, 50, 51, 53-57, 59-62, and 69-73 are distinguished over the prior art of record by providing a support member comprising a plurality of turrets, wherein the contact member covers project from the turrets. This feature provides a means for bubbles to escape from the surface of the workpiece through the spaces between the turrets. The prior art of record neither teaches nor suggests the use of turrets. Uzoh teaches the use of contacts that are directly attached to the surface of the conductive ring or embedded within the conductive ring (see figs. 7B and 8B of US '231). Andricacos et al. use hook-shaped contacts that are connected to a lower surface of the support member (see fig. 9 in US '975). The contacts in Stevens are embedded within the support ring and would trap all bubbles at the interface between the flange and the workpiece (see fig. 9 of US '236). Based upon the

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teachings of the prior art, it would not have been obvious to one skilled in the art to use a turret as claimed in the instant invention because the prior art teaches the use of contacts embedded in the support members or contacts attached directly to the planar surface of the support member. The instant invention would provide a means for the removal of bubbles from the surface of a workpiece during electroplating through the use of turrets.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In U.S. Pat. No. 5,833,820, Dubin teaches an electroplating apparatus comprising a contact assembly having a dielectric cover.

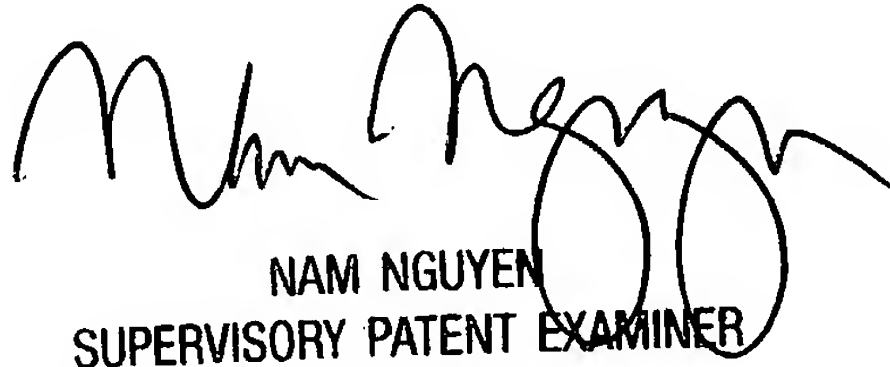
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L. Mutschler whose telephone number is (571) 272-1341. The examiner can normally be reached on Monday-Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

blm
April 1, 2004



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